

2018-03399

Feature activity 03

```
C:\WINDOWS\system32>docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
ctguy18/ping        latest     79a9a617b400  5 minutes ago 170MB
ubuntu             16.04     9ff95a467e45  13 days ago  135MB
docker/getting-started latest     3ba8f2ff0727  2 months ago  27.9MB

C:\WINDOWS\system32>docker rmi 79a
Untagged: ctguy18/ping:latest
Deleted: sha256:79a9a617b400ced9e2431b329f66be525f2a22938360882f28823dc78e0a3e19
Deleted: sha256:d37ac1f153dcbada80182a97423f430410a0dd934c9911dbc84a6e10e7dc4b0e
```



Dockerfile - Notepad

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```
FROM ubuntu:16.04
LABEL author="David Elner"
```

```
RUN apt-get update
```

```
RUN apt-get install -y iputils-ping
```

I had to change directories for it to access Dockerfile.

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker build -t "delner/ping" .
[+] Building 70.7s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 143B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/ubuntu:16.04
=> [1/3] FROM docker.io/library/ubuntu:16.04
=> [2/3] RUN apt-get update
=> [3/3] RUN apt-get install -y iputils-ping
=> exporting to image
=> => exporting layers
=> => writing image sha256:010a1be2eaecae7358992f894e4dbd3e5c510b234b2c95e9135622aac9611a7
=> => naming to docker.io/delner/ping
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker images
REPOSITORY          TAG         IMAGE ID      CREATED       SIZE
delner/ping        latest     010a1be2eaec  About a minute ago 170MB
ubuntu             16.04     9ff95a467e45  13 days ago  135MB
docker/getting-started latest     3ba8f2ff0727  2 months ago  27.9MB
```

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>
```

Upon building again after adding optimizations, it is still not optimal because of 35MB difference.

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker images
REPOSITORY          TAG          IMAGE ID       CREATED        SIZE
delner/ping          latest       356fe239d789  About a minute ago  170MB
ubuntu               16.04       9ff95a467e45  13 days ago    135MB
docker/getting-started latest       3ba8f2ff0727  2 months ago    27.9MB
```

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker build -t "delner/ping" .
```

```
[+] Building 70.7s (7/7) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 143B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/ubuntu:16.04
=> [1/3] FROM docker.io/library/ubuntu:16.04
=> [2/3] RUN apt-get update
=> [3/3] RUN apt-get install -y iputils-ping
=> exporting to image
=> => exporting layers
=> => writing image sha256:010a1be2eacae7358992f894e4dbd3e5c510b234b2c95e9135622aac9611a7
=> => naming to docker.io/delner/ping
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

```
[+] Building 0.5s (8/8) FINISHED
=> [internal] load build definition from Dockerfile
=> => transferring dockerfile: 277B
=> [internal] load .dockerignore
=> => transferring context: 2B
=> [internal] load metadata for docker.io/library/ubuntu:16.04
=> [1/4] FROM docker.io/library/ubuntu:16.04
=> CACHED [2/4] RUN apt-get update
=> CACHED [3/4] RUN apt-get install -y iputils-ping
=> [4/4] RUN apt-get clean      && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages*      && truncate -s 0 /var/log/*log
=> exporting to image
=> => exporting layers
=> => writing image sha256:356fe239d7898686974e5d038d6a72a64d99b3710c1f91d04caacd523e489ea4
=> => naming to docker.io/delner/ping
```

Use 'docker scan' to run Snyk tests against images to find vulnerabilities and learn how to fix them

Finally, after optimizing Dockerfile again, there is only a 4mB difference now.



Dockerfile - Notepad

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```
FROM ubuntu:16.04
LABEL author="David Elner"
```

```
RUN apt-get update \
    && apt-get install -y iputils-ping \
    && apt-get clean \
    && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
    && truncate -s 0 /var/log/*log
```

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker images
REPOSITORY          TAG          IMAGE ID       CREATED        SIZE
delner/ping          latest       088fbe761e49  34 seconds ago  139MB
ubuntu               16.04       9ff95a467e45  13 days ago    135MB
docker/getting-started latest       3ba8f2ff0727  2 months ago    27.9MB
```

Adding ENV and CMD:

```
Dockerfile - Notepad
File Edit Format View Help
FROM ubuntu:16.04
LABEL author="David Elner"

ENV PING_TARGET "google.com"

RUN apt-get update \
    && apt-get install -y iputils-ping \
    && apt-get clean \
    && cd /var/lib/apt/lists && rm -fr *Release* *Sources* *Packages* \
    && truncate -s 0 /var/log/*log

CMD ["sh", "-c", "ping $PING_TARGET"]
```

With this, running `docker run -it delner/ping` yields:

```
C:\Users\Clynt\Documents\GitHub\ME8_Containerization_and_Docker\3-building_images>docker run -it delner/ping
PING google.com (216.58.200.78) 56(84) bytes of data.
64 bytes from 216.58.200.78: icmp_seq=1 ttl=37 time=31.1 ms
64 bytes from 216.58.200.78: icmp_seq=2 ttl=37 time=32.0 ms
64 bytes from 216.58.200.78: icmp_seq=3 ttl=37 time=30.9 ms
64 bytes from 216.58.200.78: icmp_seq=4 ttl=37 time=30.6 ms
64 bytes from 216.58.200.78: icmp_seq=5 ttl=37 time=31.4 ms
^C
--- google.com ping statistics ---
5 packets transmitted, 5 received, 0% packet loss, time 4007ms
rtt min/avg/max/mdev = 30.697/31.238/32.037/0.505 ms
```